Center Innovation Fund: SSC CIF

Autonomous Operations Design Guidelines for Flight Hardware

Completed Technology Project (2016 - 2017)

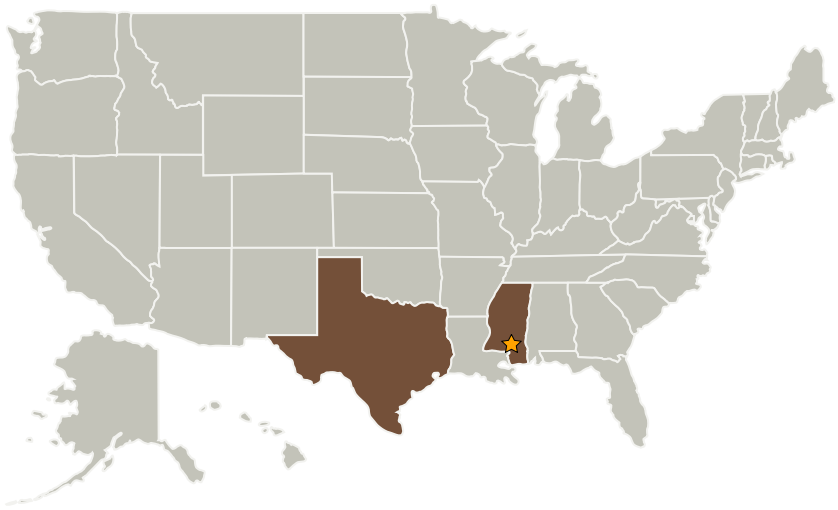
Project Introduction

SSC experimentally modified an autonomous operations flexible system suite developed for a ground application for a flight system under development by JSC. The system was modified to run on Linux to integrate with flight systems in collaboration with JSC. Functional and performance tests were run to benchmark performance in order to develop recommendations for the design of future autonomous operations for flight hardware.

Anticipated Benefits

These autonomous systems will address NASA's requirement for capable autonomous systems for flight hardware for exploration and science missions as well as have likely benefit to aeronautics here on earth.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi

Flight control room at JSC

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

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Co-Funding Partners	Type	Location
Johnson Space Center(JSC)	NASA Center	Houston, Texas
Space Technology Mission Directorate(STMD)	NASA Mission Directorate	

Primary U.S. Work Locations	
Mississippi	Texas

Images

Project Image
Flight control room at JSC
(https://techport.nasa.gov/image/35801)

Project Management

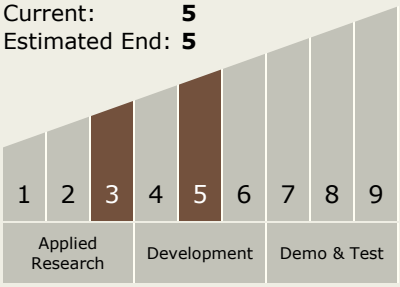
Program Director:
Michael R Lapointe

Program Manager:
Ramona E Travis

Principal Investigator:
Jorge F Figueroa

Technology Maturity (TRL)

Start: **3**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX07 Exploration Destination Systems
  - TX07.3 Mission Operations and Safety
    - TX07.3.2 Integrated Flight Operations Systems

Target Destinations

Earth, The Moon, Mars